**AB (Pre and Post-test Designs)**

Compares behavior (DV) before and after a treatment (IV)

Behavior is observed during a baseline period of no treatment “A”

Behavior is then observed during a treatment phase “B”

**Limitations**

Cannot make causal inferences due to lack of replication

**Example:**

1- Verbal praise by teacher to an inattentive high school student

2- Observe and record the student’s behavior for two weeks without any intervention (baseline)

3- Provide verbal praise when the student is on task for two weeks (intervention or treatment)

**Reversal Design**

ABA – baseline, followed by a treatment phase, followed by a no treatment observation

ABAB – baseline, treatment phase, no treatment observation, treatment phase

Greater ability to assume causal statements due to intervention

**Limitations:**

Frequent observation, unethical to reverse positive behaviors, only works if treatment has an

immediate and obvious impact

**Example**:

1- Observe a high school student’s inattentive behavior for two weeks (baseline)

2- Provide verbal praise for desired behavior for two weeks (treatment phase)

3- Remove treatment and observe behavior for two weeks (baseline)

4- Provide verbal praise for desired behavior for two weeks (treatment phase)

**Multiple Baseline Design**

Replication of the A-B-A designs with same individual in *different settings* OR same individual

with *different behaviors* OR same behavior with *different individuals*

Requires only one or a small number of subjects

Avoids ethical problems of reversal

**Limitations:**

Requires frequent observation & only works if treatment has a visible effect soon after it begins

**Example (different settings):**

1- Student exhibits disruptive behavior in art, math, and social studies

2- Baseline (e.g. talking in class) is observed in each setting (art, math, science class)

3- Art teacher implements an intervention (e.g. verbal praise when quiet), Math and Social

Studies teacher continue baseline

4- Each teacher systematically implements the intervention until it is present in all three settings

**Interrupted Time Series**

Great if several groups but no control group

Easy to do with state test or benchmark data

Compare intervention to past data

**Limitations:**

Must rule out alternative explanations for any gains

**Example:**

1. School district adopts an innovative math text for grades 3-5 (treatment)
2. Selecting control group within district is impossible because whole district implemented text
3. However, can compare treatment with scores on state tests from past years (old baseline data)